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EXAMINER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. Claim 15 recites the limitation "wherein the liquid smoke further comprises a viscosifier". In the remarks submitted 12/7/09 applicant has referenced page 4, line 34 through page 5 line 1 of the specification which states "The viscosity is set in a suitable manner by adding carboxymethylcellulose (CMC) or similar additives as required" in order to support this recitation. However, this recitation makes no mention of "a viscosifier". At most, this passage would support the recitation of the addition of carboxymethylcellulose, but not the broad recitation of the term "viscosifier". Therefore, claim 15 constitutes new matter.

4. Claim 16 recites "wherein the liquid smoke has a viscosity ranging from 15 s to 18s (measured using the Ford4 cup). In the remarks submitted 12/7/09 applicant has referenced page 8, lines 34-35 and page 8 lines 9-10 which discloses the viscosity of

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individual examples of 15 s and 18 s measured using the Ford4 cup and does not recite a range in order to support this recitation. As stated in MPEP 2163.05 III "With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation to "at least 35%" did not meet the description requirement because the phrase "at least" had no upper limit and caused the claim to read literally on embodiments outside the "25% to 60%" range, however a limitation to "between 35% and 60%" did meet the description requirement". In the instant case, no range of viscosities is recited in the specification. Therefore, there is no support for the new range of 15 s to 18 s claimed since no original range was present.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krallman et al. U.S. Patent Application Publication No. 2003/0059502 (hereafter referred to as Krallman) and Stenger et al. U.S. Patent No. 5,399,427 (hereafter

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referred to as Stenger) and Ramesh et al. U.S. Patent No. 6,221,410 (hereafter referred to as Ramesh) and Erk et al. U.S. Patent No. 4,897,295 (hereafter referred to as Erk).

7. Krallman teaches a smoke-impregnated at least three-layer tubular film with a polyamide inner and outer layer that gives the finished sausage a smoke flavor. (Para. 13, 26) The casing may be biaxially oriented and shrinkable. (Para. 14) The liquid smoke emulsion that is coated on the inside of the tubular casing is recited to comprise liquid smoke, browning agents and optionally water. (Para. 16-20) The mixture is recited to be applied to the interior surface of the tubular casing using the art-recognized bubble technique. (Para. 30) Useful polyamides for the layers of the invention are recited to be nylon 6 and partially aromatic copolyamide. (Para. 41)

8. Krallman is silent regarding the water vapor permeability of the polyamide layers, and the thickness of the polyamide films.

9. Stenger et al. teaches a polyamide 6 single layer sausage casings composed of nylon 6 having a thickness of 39-41 μm and a water vapor permeability of 20 $\text{g/m}^2/\text{day}$. (Table 1, comparative example 1) Stenger also recites that sausage casings with too high of a water vapor permeability lead to undesirable weight losses and drying of the sausage. (Col. 1, lines 60-64)

10. Krallman and Stenger both teach polyamide 6 sausage casings comprising Nylon 6. As evidenced by Stenger, the polyamide sausage casing of Krallman would be expected to exhibit a water vapor permeability of 20 $\text{g/m}^2/\text{day}$ and likely less since the casing of Krallman would be comprised of two layers of polyamide.

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11. The casing recited by Krallman would inherently have a water vapor permeability of $20 \text{ g/m}^2/\text{day}$ and likely less as evidenced by Stenger. Although Krallman recites that the composition impregnating the polyamide sausage casing of the invention should include a browning agent, it would have been obvious to one having ordinary skill in the art at the time the invention was made to delete the browning agent from the solution in order to lower costs by requiring less materials and to provide a sausage that would be more desirable to an environmentally conscious consumer who prefers food containing fewer synthetic materials. Additionally, since both Krallman and Stenger are directed towards sausage casings it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized polyamide films of the thickness recited by Stenger (about $40 \text{ }\mu\text{m}$) to produce the sausage casing recited by Krallman because these thickness were known in the art to be useful.

12. Ramesh teaches that it is known that a polar surface is needed for adhesion of a film to a meat product. Adhesion of the film to the meat is frequently needed in order to prevent "purge", i.e., "cook-out", which can occur during the cooking of the meat packaged in the film if the film does adhere to the meat during cook-in. A polar film surface can be provided by using: (a) polar resin in the film layer in contact with the meat, and/or (b) surface modification, such as corona treatment, of the film surface in contact with the meat. Typically, polar polymers used for meat adhesion include: ethylene/unsaturated acid copolymer, anhydride-containing polyolefin, and polyamide.
(Col. 2, lines 13-24)

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13. Krallman, Stenger and Ramesh are all directed towards sausage casings.

Ramesh evidences that it was well known in the sausage casing art that the interior of sausage casing needs to have a high adhesion to the meat encased. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have corona treated the interior surface, as taught by Ramesh, of the polyamide sausage casing produced by the combination of Krallman with Stenger in order to produce a casing with improved meat adhesion properties in addition to the adhesion provided by the use of a polar polymer. Corona treatment of the invention recited by Krallman produced with the obvious deletion of the browning agent would have produced with the same structure as claimed in claims 1, 2, 4-8 and 12-14.

14. Krallman, Stenger and Ramesh teach what has been recited above but are silent regarding the swelling value of the polyamide inner layer of the casing.

15. Erk teaches polyamide sausage casings containing at least one polyamide which can absorb at least 5% of their own weight in water prior to saturation. (Col. 3, lines 5-10) A sausage casing that is treated with water prior to filling avoids the problems of the need for additional lubricating agent and provides a casing that can be filled to a constant diameter and that can be tied off and clipped without error and without any loss and so that the filled casings display no visible tightening folds. (Col. 2, line 65-Col. 3, line 2) It is particularly preferred that the casing consists of at least one of the polyamides 6, 6.6 or a mixture of PA-6 and PA 6.6. (Col. 4, lines 46-50) The casings produced are recited to have thicknesses between 25 to 100 μm . (Col. 5, lines 19-22)

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16. As evidenced by Erk, casings comprising Nylon 6 layers will have a swelling value of greater than 5 %. As such, the casing produced by the combination of Krallman, Stenger and Ramesh would have had a swelling value of greater than 5% for the nylon 6 interior layer of the casing which overlaps with the range of greater than 10% claimed in claims 1 and 13 and 10 to 100% claimed in claim 3. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) Such as casing produced by modifying the nylon 6 casing of Krallman optimized as taught by Ramesh with the properties of vapor permeability and swelling value evidenced by Stenger and Erk, respectively, would have been the same as the invention claimed in claims 1-8 and 12-14.

17. Regarding the values of surface energy recited in claims 1, 2 and 13: Corona treating as recited by Ramesh would have inherently produced a polyamide sausage casing with surface energy values such as those recited in claims 1, 2 and 13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the amount of corona treatment in order to obtain the most beneficial properties of adhesion. Such an optimization would have resulted in a casing such as claimed in claims 1, 2 and 13.

18. Regarding the thickness values for the single and multilayer casings recited in claims 1 and 13: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the result effective variable of thickness of

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the polyamide layers depending on the strength required for the application the casing was being used for. Such an optimization of the thickness of the polyamide layers for the casing produced by the combination enumerated above would have resulted in the invention claimed in claims 1 and 13.

19. Regarding claim 5: It is well known in the sausage casing art to produce seamless polyamide casings. The liquid smoke material recited by Krallman is applied to the sausage casing in tubular form, therefore it would have been obvious to one of ordinary skill in the art to have utilized either a seamed or seamless polyamide casing for the invention of Krallman. Production of the corona treated invention of Krallman utilizing a seamless polyamide casing would have produced the invention as claimed in claim 5.

20. Regarding claims 6 and 7: Krallman recites that the sausage casing of the invention can be biaxially oriented and is shrinkable. It is well known in the sausage art to heat set shrinkable films and to minimize the residual shrinkage thereof. The optimization of the corona treated invention of Krallman according to these well known properties would have produced the invention as claimed in claims 6 and 7.

21. Regarding claim 12: Krallman and Stenger clearly recite using the polyamide casings recited for packaging sausage. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have packaged any sausage within the casing produced by the combination of Krallman with the teachings of Stenger such as those claimed in claim 12.

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22. Regarding claims 15 and 16: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have controlled the viscosity of the liquid smoke solution in order to facilitate the coating of the solution on the interior of the casing. Krallman specifically discloses that water is optionally present in the coating solution. Obviously, the presence or absence of water would affect the viscosity of the solution and therefore water is interpreted to read on the limitation of "a viscosifier" recited in claim 15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the result effective variable of water content in order to optimize the viscosity of the solution for coating. This obvious optimization would have resulted in the invention claimed in claim 16.

Response to Arguments

23. Applicant's arguments filed 12/7/09 have been fully considered but they are not persuasive.

24. In response to applicant's arguments on pages 8, 10-12, 14 and 15 of the remarks against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

25. Applicants' arguments regarding the browning agent recited by Krallman and the deletion of this element when its function is not desired have been addressed in the previous office action. Applicant has asserted on page 9 of the remarks that there is no

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explicit motivation in the prior art to remove the browning agent disclosed. However, the Courts have made clear that the teaching, suggestion, or motivation test is flexible and an explicit suggestion to combine the prior art is not necessary. The motivation to combine may be **implicit** and may be found in the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, at 1366, 80 USPQ2d at 1649 (Fed. Cir. 2006). “[A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the improvement is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal-and even common-sensical-we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references.” *Id.* at 1368, 80 USPQ2d at 1651. (MPEP 2143 (G))

26. Applicant has additionally asserted on page 9 that the browning agent of Krallman is a "natural flavoring" therefore there would have been no "environmental reason" to remove it. Krallman states in the table on page 2 that the browning agent is produced from "controlled heat treatment of food hydrocarbons", and therefore it is not

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natural to the sausage being encased. This reasoning also fails to address the additional implicit motivation of lowering costs recited.

27. It is unclear what legal standard applicant is applying in asserting on page 10 of the remarks that because Krallman additionally teaches nylon 12 and nylon 11 it would not reasonably suggest the nylons of claim 14. Krallman explicitly teaches each of the polyamides claimed and any additional components claimed are recited to be optional. Therefore, applicant's argument is not found persuasive.

28. Applicant has asserted on page 11 of the remarks that Stenger fails to teach every element of the invention claimed. However, note that while Stenger does not disclose all the features of the present claimed invention, Stenger is used as a teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, the typical thicknesses of polyamide 6 sausage casings and the water vapor permeability of polyamide 6 and in combination with the primary reference, discloses the presently claimed invention.

29. Likewise, applicant has asserted on page 13 of the remarks that Ramesh fails to teach every element of the invention claimed. However, note that while Ramesh does not disclose all the features of the present claimed invention, Ramesh is used as a teaching and evidentiary reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ

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871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, the utility of corona treatment to increase the adhesion of sausage casings to a meat product and in combination with the primary reference, discloses the presently claimed invention.

30. Applicant has asserted on page 13 of the remarks that Ramesh only recites surface energies of less than 34 dyne/cm. However, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). In the instant case, it is the examiner's position that utilization of the corona treatment taught by Ramesh in the combination stated would have resulted in the claimed surface energy.

31. Applicant asserts on page 13 of the remarks that Ramesh "expressly cautions that use of polyamide in contact with food can provide 'too much meat-adhesion'". This is an inaccurate representation of the teachings of Ramesh. The passage cited by applicant actually states "polymers such as polyamide **can, in some instances**, provide too much meat-adhesion and tend to pull meat off during unpacking of the meat". (emphasis added) This recitation does not translate to the express caution asserted to be disclosed by applicant nor does this passage expressly discourage the improvement in the surface energy of polyamide 6 by corona treatment stated above. Ramesh also does not expressly state that utilizing a polar polymer and surface treatment would yield undesirably effects. In fact, contrary to the assertion of applicant on page 13, it is the

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examiners position that surface treatment of a polar polymer would be obvious since both techniques of increasing meat adhesion are disclosed to be desirable.

32. Applicant has asserted on pages 15 and 16 of the remarks that Erk fails to teach every element of the invention claimed. However, note that while Erk does not disclose all the features of the present claimed invention, Erk is used as an evidentiary reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, casings comprising Nylon 6 layers will have a swelling value of greater than 5 % and in combination with the primary reference, discloses the presently claimed invention. The obviousness of the ranges claimed has been discussed above.

33. Applicant has asserted on page 17 of the remarks that the examples of Erk fail to teach the swelling values claimed. However, “applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others.” *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). Erk discloses a range of greater than 5% which overlaps with the ranges claimed by applicant. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MICHELE JACOBSON** whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Thursday 8:30 AM-7 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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